

Tri-Service CADD/GIS Technology Center

*Facilities Management
Software/Solutions*

7 April 1999

by

Denise Bullock

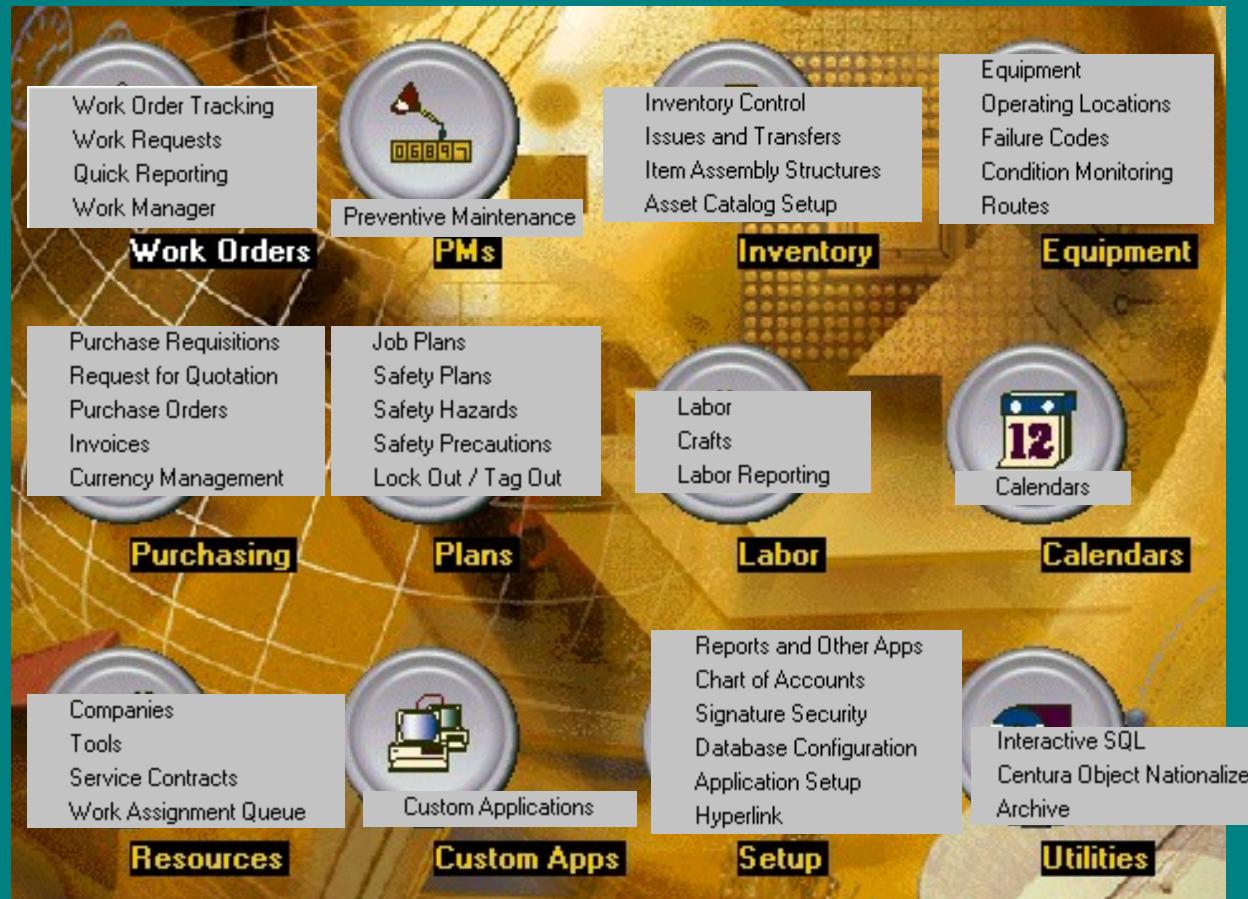
MAXIMO

- *Computerized Maintenance Management System (CMMS)*
- *Concentrates on Asset modeling*
- *Reconfigurable*
- *Client/server architecture*
- *Scalable*
- *Windows-based*

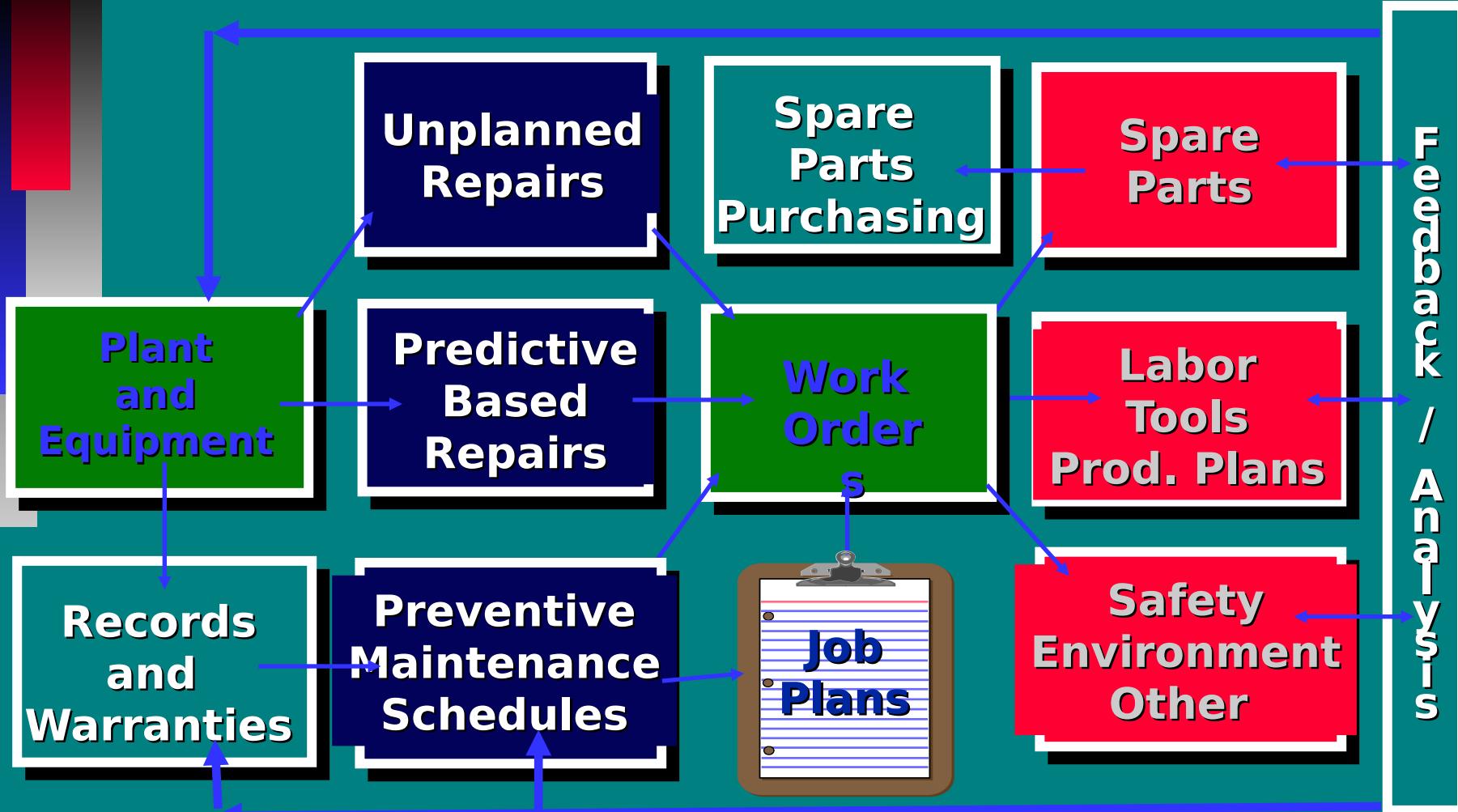
MAXIMO

- *Assets can be viewed by functional need*
- *Drilldown capabilities can track assets, even when they are moved*
- *Hot links to electronic documents relate data to a specific asset - floor plans, repair histories, manuals, contracts,...*

MAXIMO Enterprise 4.0



MAXIMO Maintenance Process Overview

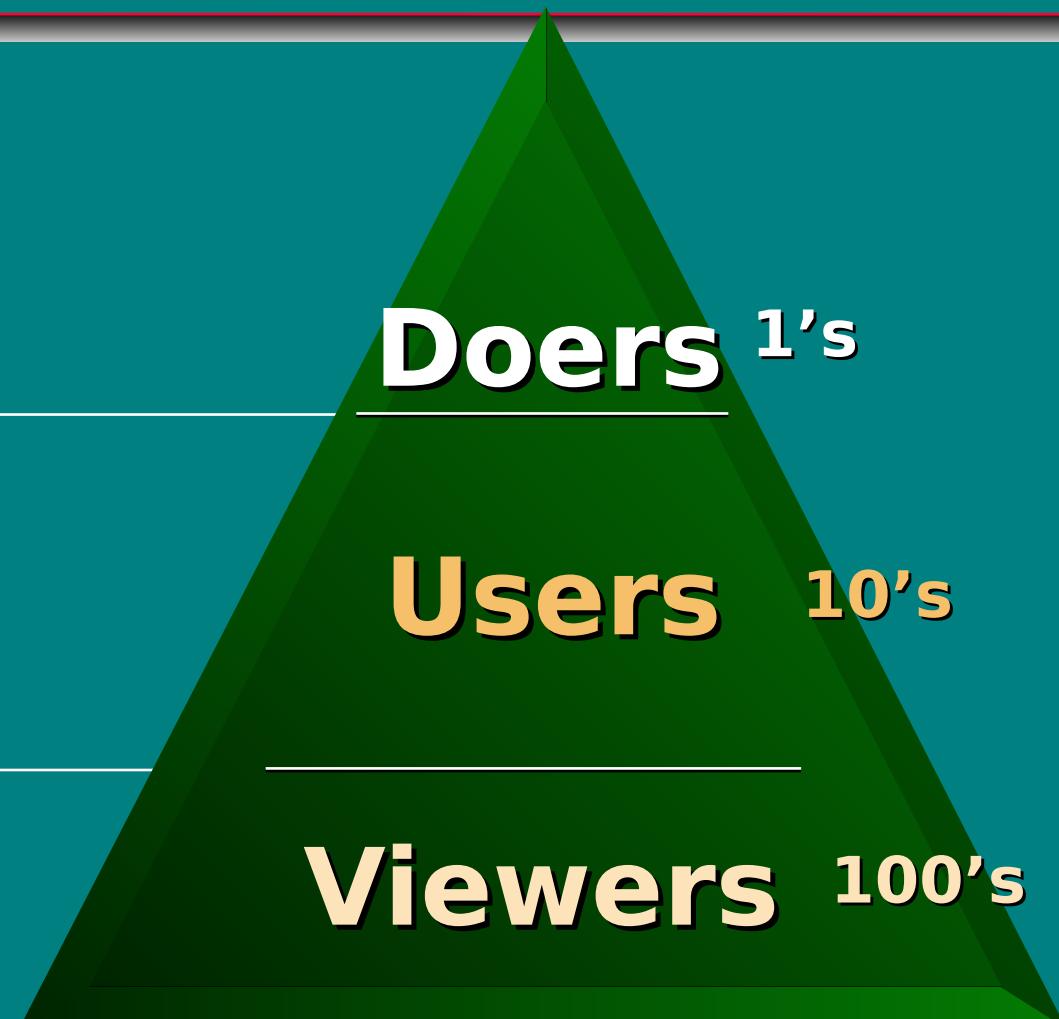
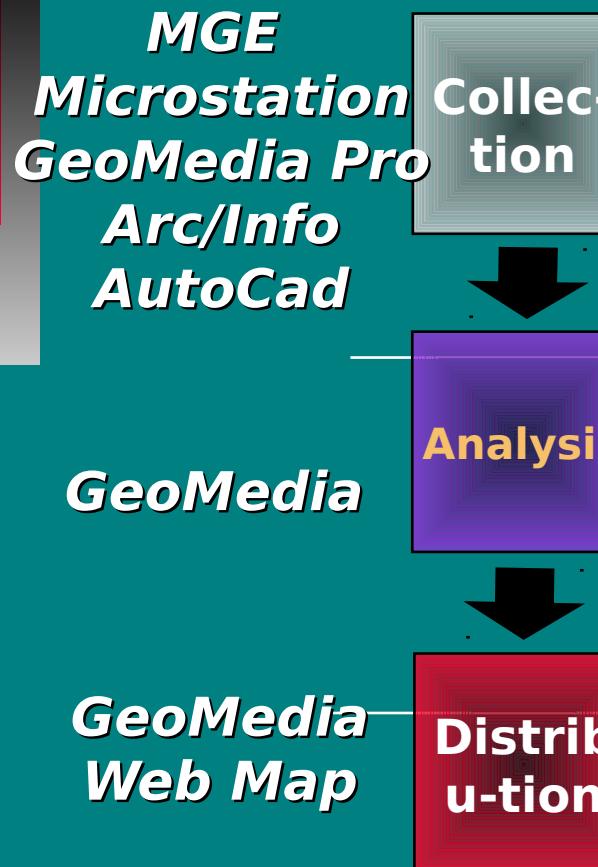


Intergraph Federal

Systems

- A leading provider of software and integration services
 - GIS Solutions
 - Facilities Maintenance Management Systems
 - Maximo
 - Computer Aided Dispatch
 - Document Management
 - UNIX/NT interoperability products
 - Network Products and Services

Product Map



GeoMedia

- *Spatial analysis*
- *Thematic mapping*
- *Reads multiple GIS data formats*
- *Integrates multiple projects/map projections*
- *“Stand-alone”*
 - *uses Windows graphics and file utilities*
- *Fully Windows/OLE-compliant*
- *Easily customized*

GeoMedia Pro

- *Data Capture & Maintenance*
- *Data Editing and Validation*
- *Analysis and Output*
 - *uses Windows graphics and file utilities*
- *Fully Windows/OLE-compliant*
- *Easily Customized*
- *Uses Standard RDBMS*

GeoMedia Web Map

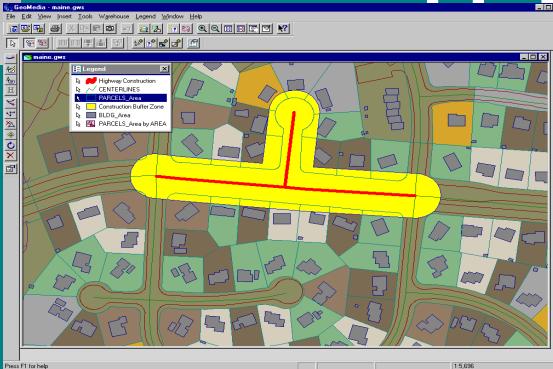
- *Provides GIS data over the WWW*
- *Dynamically accesses GIS/CAD data*
- *Click on map graphics to retrieve other data*
 - *attributes, reports, photos, CAD drawings*
 - *hyperlinks to other WWW sites*
- *Data provider controls data accessibility*
- *Feature display controlled by map scale*
- *Combine vector & raster maps in display*



CAD/GIS Software Capture Maintain

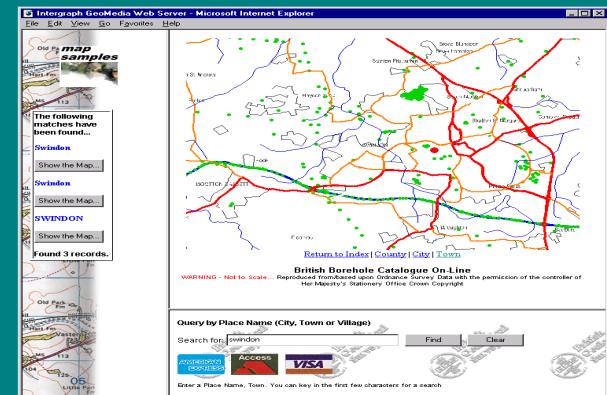
Enterprise
Database

Use and Apply



 **INTERGRAPH**
GeoMedia™

View over the Web



 **INTERGRAPH**
GeoMedia™
Web Map

Benefits

- *Transitions the Installation to a COTS based solution, such as, PWMA to Maximo*
- *Provides visibility into day to day activities and costs*
 - *Work Orders*
 - *Scheduled and Emergency Maintenance*
 - *Budgeted vs Actual Expenditures; incl. Roll-ups*
- *Provides Cost Estimating and What If analysis*
- *Provides Financial Management*
 - *Links to other corporate financial systems*

Integrating the Desktop

- ***A solutions-oriented approach for addressing installation data management problems and issues***
- ***A collection of tools and techniques that support mission-critical operations and maintenance for an installation***
- ***Open, economical standards-based integration strategy between sources of data and systems***
- ***“Any Base” web-based storefront for corporate information dissemination***

Implementation

- *Design for the distributed Enterprise*
- *Follow a consistent, proven methodology for design and implementation*
- *Strive for Data Interoperability vs. Data Conversion*
- *Deploys appropriate tools for a variety of users*

Typical Software Components

- *GeoMedia* to view and merge disparate GIS, CAD and relational data.
- *MAXIMO* - enterprise asset maintenance supporting multi-site facility management and integration with ERP and financial systems.
- *AnyBase Web* tools for easy access to live data and an entry point for work requests.

Integrated “WebTop” Architecture

Data Viewers Data Data Creators

BROWSER



**Connected
at the
Browser**

09/11/16



GIS-based Facility Information Viewer links work order summary data to the base map.

Intergraph Facility Information Viewer

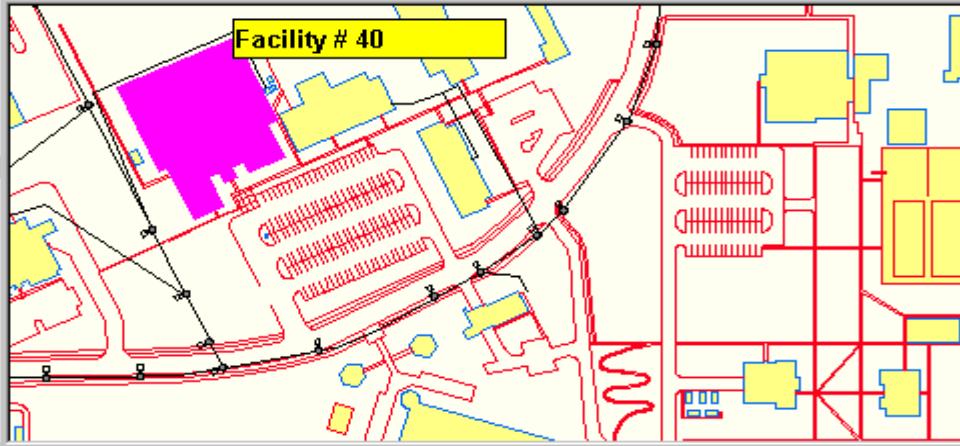
File Help

Locator

Facility No: Display Facility No.

Legend

- Facilities
- Roads
- Electric Lines
- Electric Poles



Facilities Information for Bldg: 40

Sort Filter Print

Work Orders

WO Num	Description	Status
006592	VENTS BLOWING COLD AIR, CHK HEAT, BOILER.	COMP
006614	REPL FUSE FOR HEAT PUMP.	COMP
006677	DOOR TO SMOKING AREA, HANDLE NOT WORKING CORRECTLY.	COMP
006715	PROVIDE 2 EA 60 WATT BULBS.	COMP
006654	SMALL BOILER IN LAB IS LEAKING.	COMP

Ready

maximo menu - Microsoft Internet Explorer

File Edit View Go Favorites Help

Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print

Address http://localhost/MaximoGM/html/Index.html

MAXIMO
 Maintaining Your Enterprise

Work Order Status: Approved Query

Select Type and Request a Work Order.
 Location Equipment Request

Measurements Spatial Queries

WorkOrder # 1007

Results: Measure/Location results display here...

Oracle-based MAXIMO data for the selected work order appears in its own frame

GeoMedia WebMap's standard dataservers can be used to display GIS Maps and CAD drawings

Description:	Packaging Mach. Elevator & Drainpan Inspection
Building Number:	50
Reported By:	Tom Diller
Phone Extension:	x4353
Status:	APPR
Target Start Date:	11/1/97 8:00:00 AM
Target Complete Date:	11/1/97 11:00:00 AM
Building Number:	50

Done Local intranet zone

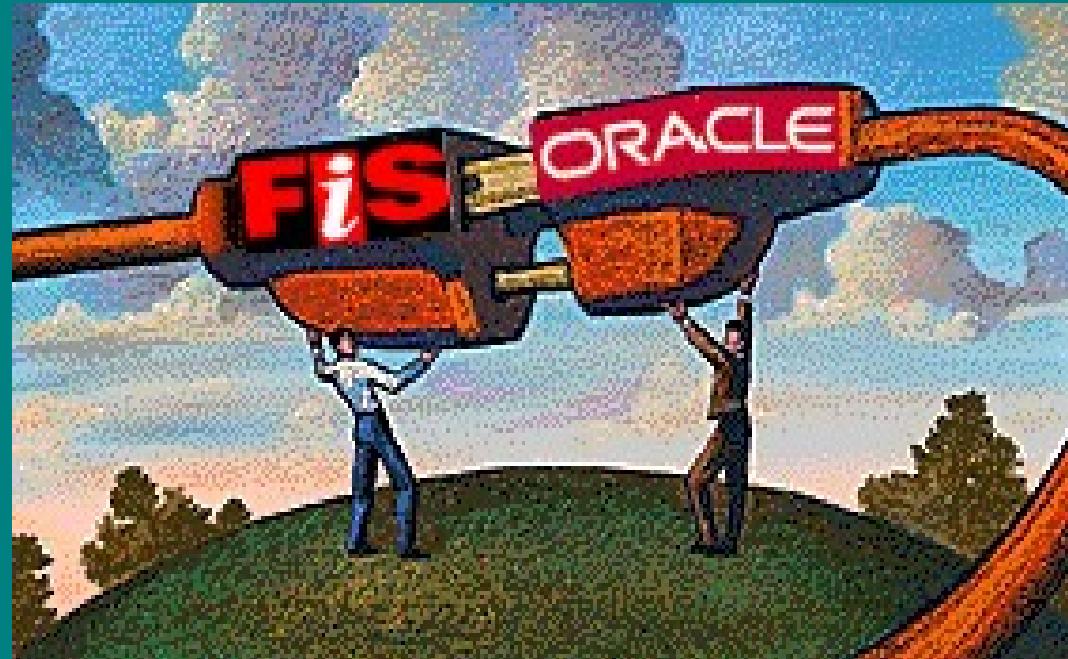
FIS Objective

- *Focuses on large-scale enterprise-level implementations*
- *Provide the most feature-rich, scaleable technology and core product engines*
- *Deliver best-of-class technology*
- *Partner with other best-of-class technology developers*

FIS/FM Major Tasks

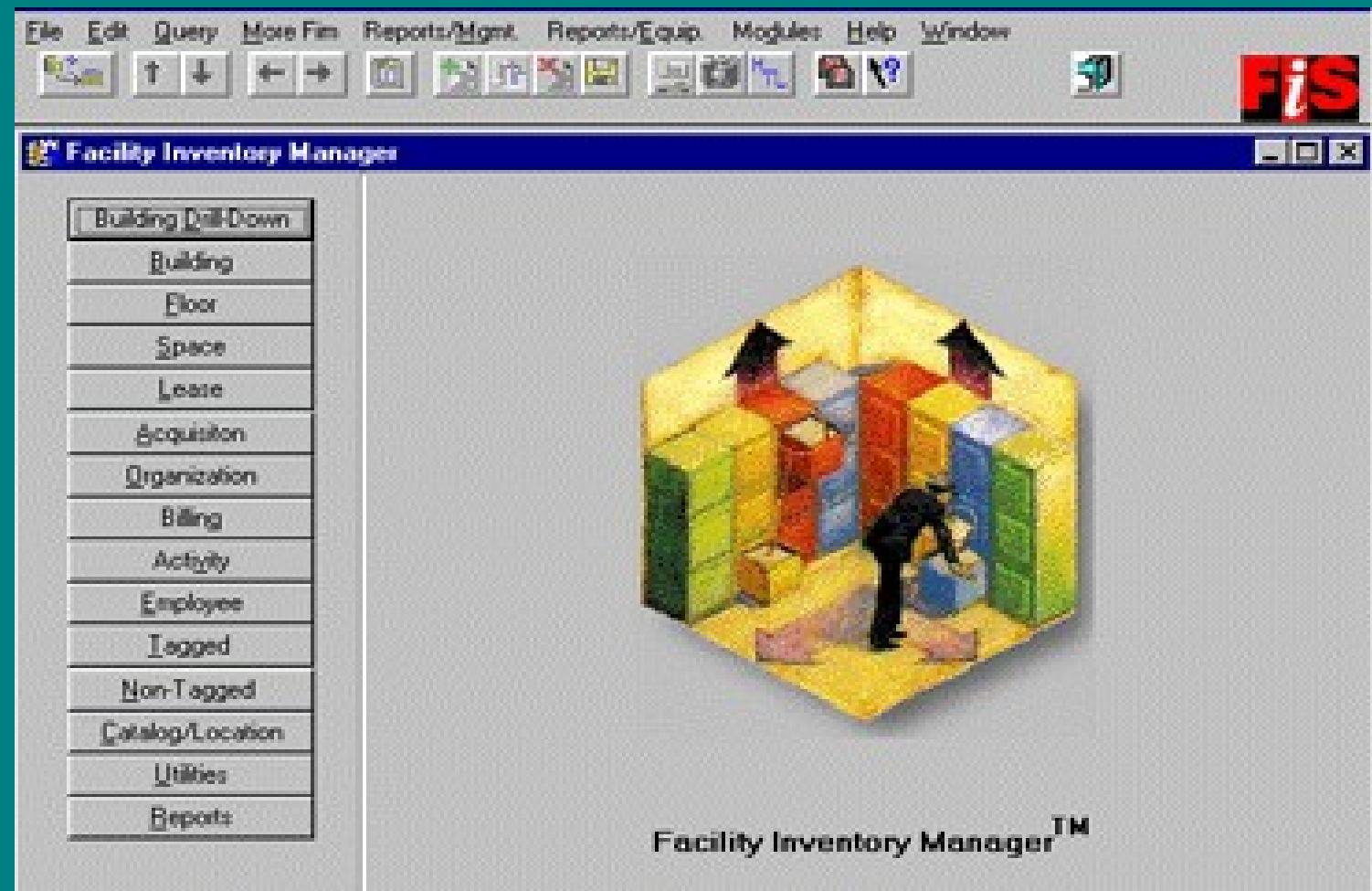
- ***Operational***
 - ***Asset Management***
(people, space)
 - ***CADD Integration***
 - ***Property Management***
- ***Tactical***
 - ***Work Orders***
(move/scheduling, real property, ...)
- ***Strategic Planning***

FIS/FM



- *Built on native Oracle*
- *leverages AutoCAD & MicroStation*
- *Windows-based*

FIS/FM

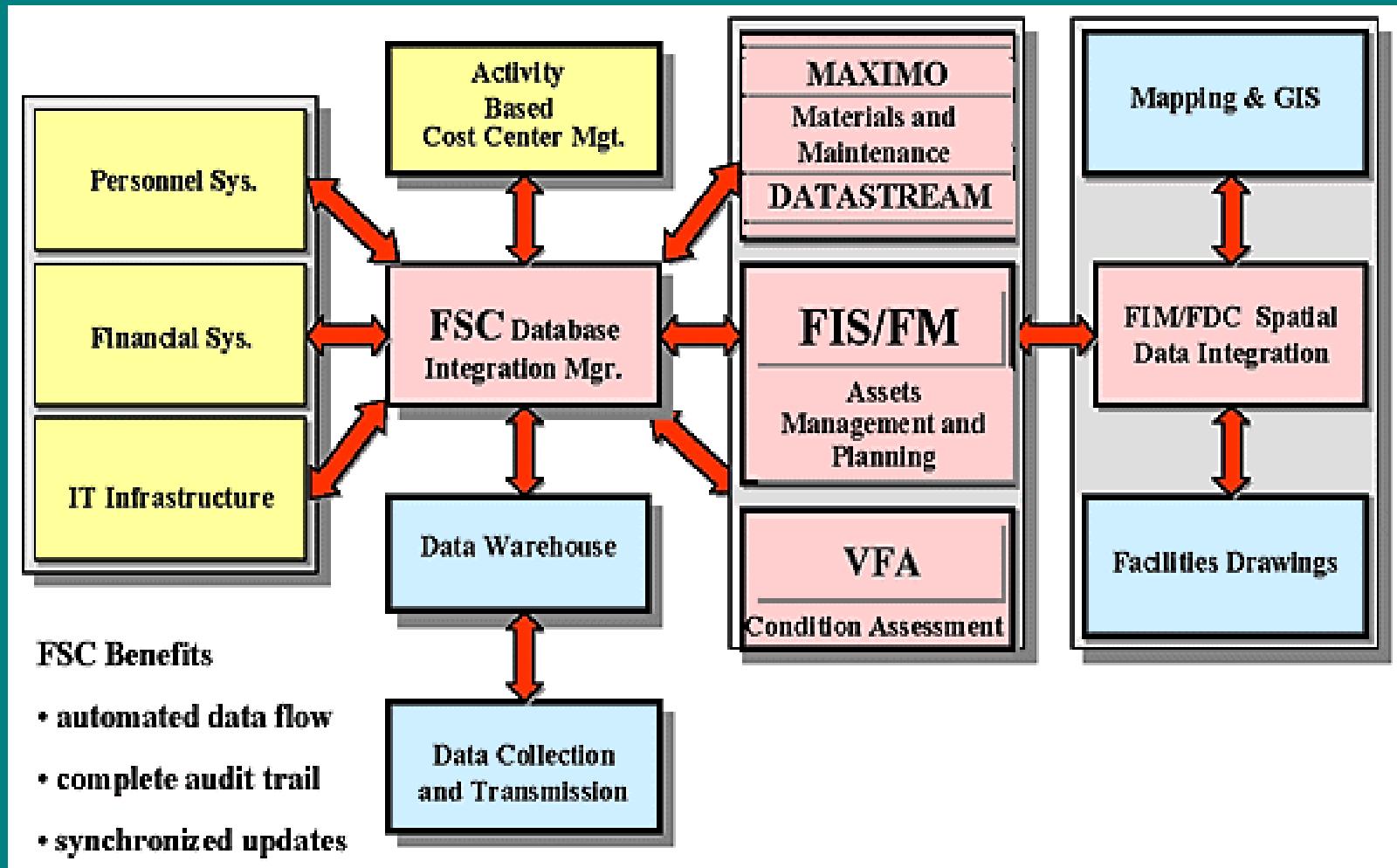


FIS “best-of-class” Implementation Concept

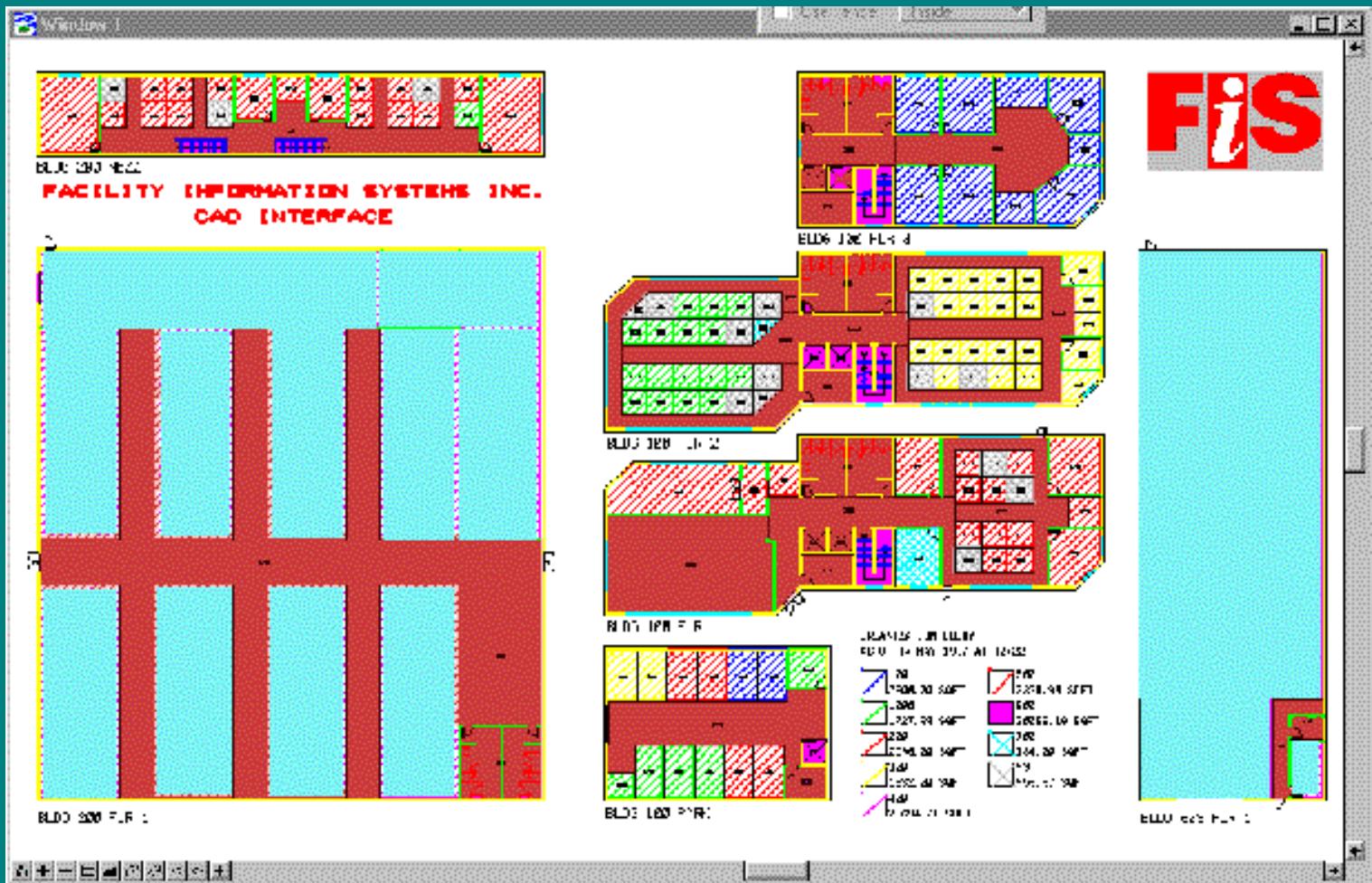
FIS/FM is specifically designed for data rich and data sharing environments where information is routinely passed between multiple databases, including:

- ***financial***
- ***maintenance***
- ***cable management***
- ***human resources***

FIS “best-of-class” Implementation Concept



Facility Drawing Coordinate



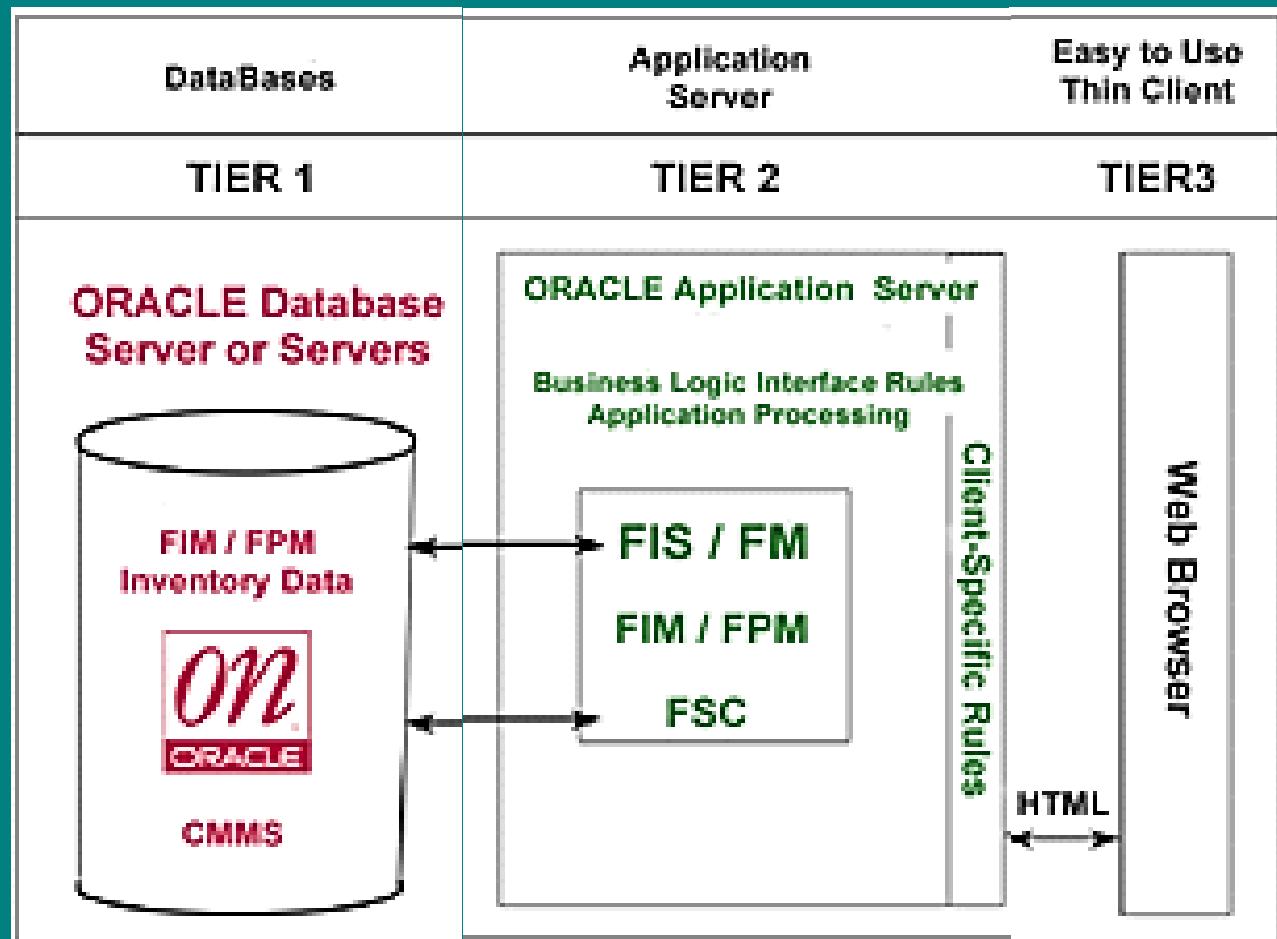


Principal FIS Software Modules

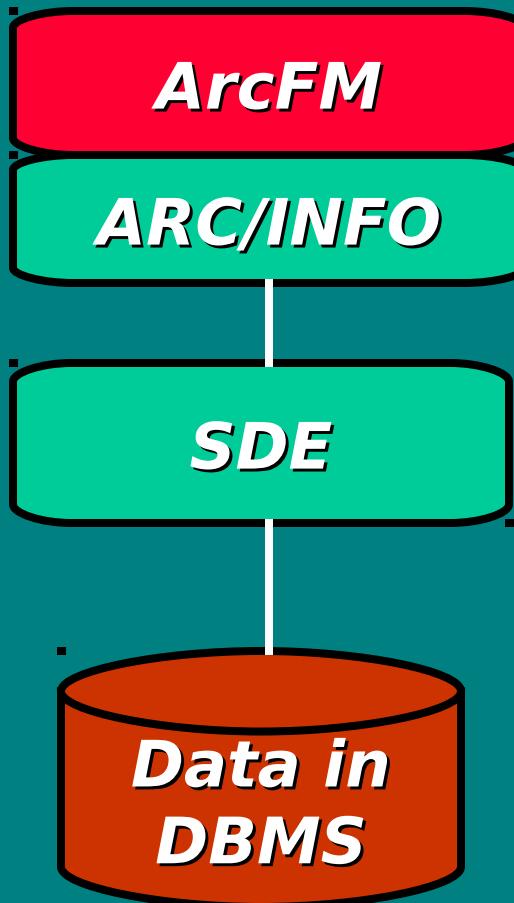
- ***Facility Inventory Manager***
- ***Facility System Coordinator***
- ***Facility Drawing Coordinator***
- ***Facility Requirements Programmer***
- ***Facility Stack & Block***
- ***Facility Master Planner***
- ***Facility Move Manager***
- ***Facility Property Manager***
- ***Facility Information Display***

Web-based Technology

MapGuide Interface



ArcFM

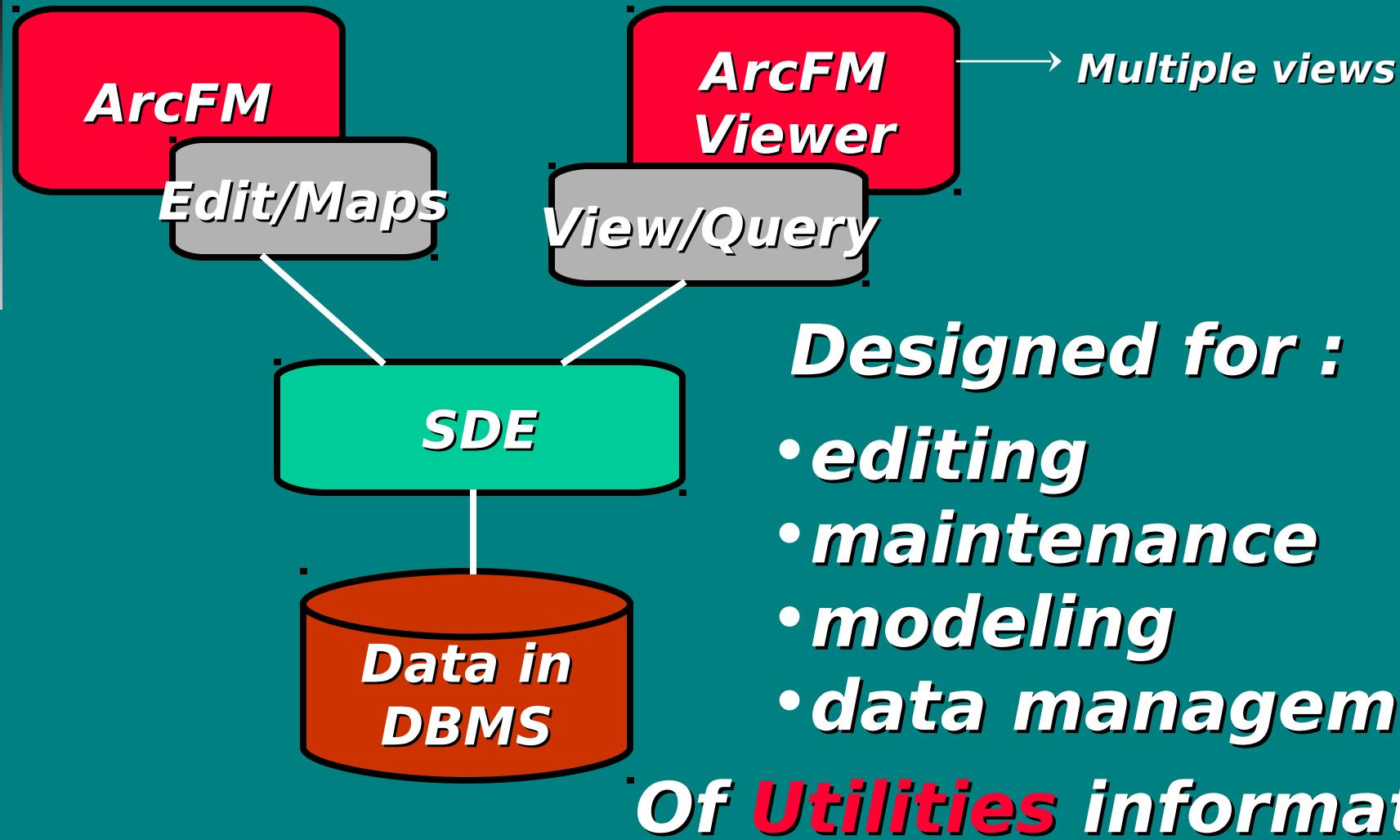


- *Developed by ESRI & Miner and Miner*
- *ARC/INFO-based application*
- *Complete solution for utilities*
- *Windows NT-based*
- *Visual Basic programming env.*
- *All-relational - SDE*
- *RuleBase Engine encodes*

Supports the data management needs

- *electric*
- *gas*
- *water*
- *wastewater*
- *land base*

ArcFM Major Tasks



ArcFM RuleBase

- *used to encode business rules into database design*
 - *provides a single, common, customizable methodology for data model, data control, and interface*
 - *covers symbology, data editing, data management, data connectivity, and validation rules*
 - *encapsulates all required domain-specific knowledge for each application area*

Helps utilities efficiently answer questions such as:

- ***Where are my facilities and how are they being used?***
- ***What is the condition of water mains, valves, hydrants, meters, storage facilities, sewer mains, and manholes?***
- ***How many valves are due for inspection in the town of Vicksburg, MS?***

Foundation Information for Real Property Management

- FIRM

- *FIRM is an automated real property asset management system.*
- *FIRM provides information to Federal real property officers throughout the life cycle of real property*
 - *acquisition*
 - *use*
 - *disposal*

FIRM Modules

- *Inventory*
- *Lease Contract*
- *Income/Expenses*
- *Work space Planning*
- *Rent*
- *Interfaces*
- *Reports*
- *System Administration*

Produces data needed externally by:

- ***Governmentwide Real Property Inventory System (GSA Form 1166)***
- ***Workspace Management Plan and Budget Justification (GSA Form 3530)***
- ***Annual Survey program***

- *Operates on a LAN providing client/server processing*
- *Uses a major, modern relational database*